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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,430	11/30/2000	Mehryar Khalili Garakani	2705-130	6082

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EXAMINER

NGUYEN, ALAN V

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 08/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/728,430

Applicant(s)

GARAKANI ET AL.

Examiner

Alan Nguyen

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 26 May 2004 under 37 CFR 1.131 has been considered but is ineffective to overcome the reference.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Shaffer et al (hereafter Shaffer).

Referring to **claims 1 and 14**, Shaffer discloses a two-pass method for achieving maximal data compression for a voice frame modem relay channel (telephony over the Internet) within a voice frame network (IP network) between two endpoint modems (Fig. 5, col. 2, Ins. 1740, col. 7, Ins. 45-50, col. 8, Ins. 55-63), wherein each modem is operatively coupled with an associated gateway thereby defining an endpoint segment including an endpoint modem and its associated gateway (Fig. 5A, gateway X and Y), the method comprising: first negotiating maximal data compression parameters for either of the two endpoint segments of the modem relay channel, wherein physical

layers of the modems are terminated at the associated gateways(col. 7, Ins. 1-30); communicating such maximal data compression parameters for at least one of the two endpoint segments to the other of the two endpoint segment (col. 7, Ins. 15-30); and second negotiating maximal end-to-end data compression parameters for the modem relay channel based upon the first negotiated maximal data compression parameters for the two endpoint segments (col. 7, Ins. 20-45).

Referring to **claims 2 and 15**, Shaffer discloses the method of claims 1 and 14, which further comprise: transitioning the channel from a voice mode into a modem relay mode of operation (transition the signal from a standard telephony signal, into a digitized signal to be transmitted by a modem over a data network, col. 8, Ins. 55-63).

Referring to **claims 3 and 16**, Shaffer discloses the method of parent claims 2 and 15, wherein said transitioning includes, terminating an end-to-end physical layer between the two modems (determine the capabilities of all intermediate devices between the sending and receiving device, col. 7, Ins. 1-30) and third negotiating at either segment a local physical layer between the two modems and their associated gateways (setup the connection through the devices and their gateways based on the determined capabilities, col. 7, Ins. 40-col. 8, Ins. 3).

Referring to **claim 4**, Shaffer discloses the method of claim 3, wherein said third negotiating at one of the endpoint segments of a corresponding physical layer is

delayed until said communicating is completed (setting up the connection occurs after the capabilities of all devices has been completed, col. 7, Ins. 1-30).

Referring to **claim 5**, Shaffer discloses the method of claim 4, wherein said third negotiating is delayed by a refusal of the endpoint segment receiving the communicated maximal compression parameters to respond to commands from the endpoint segment performing said communicating (the system inherently tries to determine the capabilities of the receiving endpoint, however if the endpoint cannot be determined all of the way to the endpoint, this would induce a delay, and force the system to maximize the system to the receiver's approximate location, col. 7, Ins. 30-38).

Referring to **claims 6 and 17**, Shaffer discloses the method of parent claims 1 and 16 which further comprises inherently storing the end-to-end data compression parameters (signaling message) for the modem relay channel (entire connection) in a memory as an end-to-end negotiation coding scheme (posture, col. 7, Ins. 20-30).

Referring to **claims 7 and 18**, Shaffer discloses a method of maximizing data compression between two modems in a voice frame network wherein each of the two modems is operatively coupled with an associated gateway defining a segment (Fig. 5, col. 7, Ins. 53-col. 8, Ins. 3, col. 8, Ins. 55-63), the method comprising: first negotiating at a first segment the maximum modem data compression to determine the maximum data compression capability of the first segment and communicating the determined

capability from the first segment to a second segment (col. 7, Ins. 1-30); second negotiating at the second segment the maximum modem data compression to determine the maximum data compression capability of the second segment (col. 7, Ins. 1-30); determining the maximum end-to-end modem data compression capability of a channel between the two modems; renegotiating at the first segment the determined maximum end-to-end modem data compression capability of the channel with respect to the first segment (col. 7, Ins. 39-45).

Referring to **claims 8 and 19**, Shaffer discloses the method of parent claims 7 and 18 which further comprises: terminating an end-to-end physical layer between the two modems (determine the capabilities between devices); and negotiating at either segment a local physical layer between the two modems and their associated gateways, thereby transitioning the channel into a modem relay mode of operation (set up a connection based on the capabilities, col. 7, Ins. 1-30).

Referring to **claims 9 and 20**, Shaffer discloses the method of parent claims 7 and 19 which, after said renegotiating, further comprises: inherently storing in a memory an end-to-end coding scheme (negotiation posture) from the signaling message of the two modems representative of the maximum end-to-end data compression capability of the channel (col. 7, Ins. 20-45).

Referring to **claim 10**, Shaffer discloses an apparatus for maximizing data compression between two endpoint modems in a voice frame network (IP network) defining a channel therebetween (channel for telephony over the Internet, Fig. 5, col. 8, Ins. 55-63), wherein each of the two modems is operatively coupled with an associated gateway (Fig. 5, gateways X and Y), with each modem and its associated gateway defining a segment, the apparatus comprising: a dual first-pass negotiation mechanism for independently determining the maximal data compression capability of each segment (col. 7, Ins. 1-30); an end-to-end data compression capability determination mechanism for determining the maximal end-to-end data compression capability based at least in part upon the independently determined maximal data compression capability of each segment (col. 7, Ins. 1-30); and a second-pass negotiation mechanism for establishing the determined maximal end-to-end data compression capability for the channel (col. 7, Ins. 20-45).

Referring to **claim 11**, Shaffer discloses the apparatus of claim 10 which further inherently comprises: an end-to-end coding scheme (negotiation posture) storage mechanism for storing in a memory the determined maximal end-to-end data compression capability for the channel based on the signaling message (col. 7, Ins. 20-30).

Referring to **claim 12**, Shaffer discloses the apparatus of claim 10, which further comprises: a modem relay connector for transitioning the channel to a modem relay

mode of operation (transition the channel from a voice channel to a channel suitable for telephony over the Internet, col. 8, Ins. 55-63).

Referring to **claim 13**, Shaffer discloses the apparatus of claim 12, wherein said modem relay connector includes a local proxy negotiation mechanism (Gateway) for terminating an end-to-end physical layer (signaling message indicating the capabilities in the system) between the two modems and for negotiating at either segment a local physical layer between the two modems and their associated gateways (col. 7, Ins. 53-col. 8, Ins. 3).

Response to Arguments

4. Applicant's answers (26 May 2004) to the rejection of claims 3-5, 8, 13, 16, and 17 under 35 USC 112, second paragraph, are persuasive, and have been withdrawn.

Applicant's answers regarding claims 1-20 rejected under 35 USC 102 have been fully considered but are not persuasive. Regarding independent **claims 1, 7, 10, 14, and 18** and their depending claims, Applicant argues that the Schaffer reference (US 6,324,409) fails to disclose a two-pass method for achieving maximal data compression for a voice frame modem relay channel, and that there is no transcoding or voice compression involved. The Examiner respectfully disagrees. The prior art of Schaffer still reads on the limitations of claims 1, 7, 10, 14, and 18. For example, referring to col 7, lines 1-20 Schaffer discloses two endpoint modems (Fig. 5, col. 2, Ins. 1740, col. 7,

Ins. 45-50, col. 8, Ins. 55-63), wherein each modem is operatively coupled with an associated gateway thereby defining an endpoint segment including an endpoint modem and its associated gateway (Fig. 5A, gateway X and Y), the method comprising: first negotiating maximal data compression parameters for either of the two endpoint segments (col. 7, Ins. 1-30; the sender collects compression capability from an intermediary station such as gateway 202 or base 302); communicating such maximal data compression parameters for at least one of the two endpoint segments to the other of the two endpoint segment (col. 7, Ins. 15-30; the sender collects compression capability from the receiver); and second negotiating maximal end-to-end data compression parameters for the modem relay channel based upon the first negotiated maximal data compression parameters for the two endpoint segments (col. 7, Ins. 20-45; the compression capability information is then relayed back to determine an optimum end-to-end coding scheme). Applicant states that no transcoding or voice compression is involved. Referring to col 6 lines 4-14 Schaffer discloses where gateways 202 and 208 carry out a new conversion, or transcoding. Sender 200 transmits voice to gateway 202, where it is demodulated and transcoded into pulse code modulation digitized compressed voice and sent through the PSTN to gateway 208, and then further converted back to voice. Gateways 202 and 208 thus contain modems that are terminated within. The Applicant needs to further define the modem relay channel and provide more structure of said channel in order to overcome the reference.

Regarding **claims 2, 3, 15, and 16**, Applicant argues that Schaffer fails to disclose transitioning to a modem relay mode from a voice mode. Referring to col 6 lines 4-14 Schaffer discloses where gateways 202 and 208 carry out a new conversion, or transcoding. Sender 200 transmits voice to gateway 202, where it is transcoded into pulse code modulation digitized compressed voice and sent through the PSTN to gateway 208.

Regarding **claim 4**, Applicant argues that Schaffer fails to disclose negotiating the endpoints of the modem relay channel. Referring to col. 7, Ins. 1-30, the setting up of the connection occurs after the capabilities of all devices have been completed.

Regarding **claim 5**, Applicant argues that Schaffer fails to disclose the system delaying the negotiation because of one endpoint refusing to respond. Referring to col. 7, Ins. 1-30, the setting up of the connection occurs after the capabilities of all devices have been completed. If the endpoint cannot be determined all the way to the endpoint, this would induce a delay, and inherently force the system to maximize the system to the receiver's approximate location.

Regarding **claims 6, 9, 17, and 20**, Applicant argues that Schaffer fails to disclose storing end-to-end compression parameters of the modem relay channel. Referring to col. 7, Ins. 1-30, Sender 200 utilizes the signaling message to collect compression capability data from gateway 202. Sender 200 then utilizes the signaling message to

collect compression capability data from receiver 210 while maintaining the first compression capability data. It is understood that the system must have some means of storing the parameters in order to calculate the optimum end-to-end coding scheme.

Regarding **claims 7 and 18**, Applicant argues that Schaffer fails to disclose maximizing data compression between the two modems, and the transcoding. Referring to col 6 lines 4-14 Schaffer discloses where gateways 202 and 208 carry out a new conversion, or transcoding. Sender 200 transmits voice to gateway 202, where it is demodulated and transcoded into pulse code modulation digitized compressed voice and sent through the PSTN to gateway 208. The end-to-end coding scheme is maximized through finding the minimum number of transcodings to send a compressed digital signal between gateways 202 and 208 that was a voice signal produced by the client.

Regarding **claims 8 and 19**, Applicant argues that Schaffer fails to disclose terminating an end-to-end physical layer between two modems, or transitioning a channel from voice mode to modem relay mode. Referring to col 6 lines 4-14 Schaffer discloses where gateways 202 and 208 carry out a new conversion, or transcoding. Sender 200 transmits voice to gateway 202, where it is demodulated and transcoded into pulse code modulation digitized compressed voice and sent through the PSTN to gateway 208. This is the conversion of voice mode to modem relay mode. With the reasons explained above, it is concluded that the Schaffer reference taken in its entirety anticipates claims 1-20. Therefore the claims are not allowed over the prior art.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Nguyen whose telephone number is 703-305-0369. The examiner can normally be reached on 9am-6pm ET, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Art Unit: 2662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AVN
August 5, 2004



JOHN PEZZLO
PRIMARY EXAMINER